

## **REMARKS**

### **I. Status of the claims**

Claim 1 has been amended by incorporating the limitations of claims 3 and 13. Claims 3 and 10-13 have been canceled. Claims 16-19 have been withdrawn due to Examiner's restriction requirement. After entering this amendment, claims 1, 2, 4-9, 14 and 15 remain for reconsideration.

### **II Claimed Invention**

Amended claim 1 claims a method for preparing a high modulus, high density polyethylene (HDPE) film. The method comprises orienting in the machine direction (MD) an HDPE blown film to a draw-down ratio greater than 10:1. The MD oriented film having an MD 1% secant modulus of 1,000,000 psi or greater. The HDPE has a density within the range of 0.950 to 0.970 g/cc (Specification, page 3, lines 9-14) and a number average molecular weight (Mn) within the range of 11,000 to 20,000. Remaining claims 2, 4-9, 14 and 15 depend from claim 1 and thus incorporate all of the limitations of claim 1.

### **III. Examiner's Rejections**

(a) Claims 1, 2, 4, 5, 14 and 15 are rejected under 35 U.S.C. § 102(e) as anticipated by, or in the alternative, under 35 U.S.C. § 103(a) as being obvious over Bowling et al. (US 6,887,923).

(b) Claims 1-5, 14 and 15 are rejected under 35 U.S.C. § 102(b) as being anticipated by, or in the alternative, under 35 U.S.C. § 103(a) as being obvious over Underwood et al. (US 3,179,326).

(c) Claims 3 and 6-13 are rejected under 35 U.S.C. § 103(a) as being obvious over Bowling et al. (US 6,887,923).

(d) Claims 6-13 are rejected under 35 U.S.C. § 103(a) as being obvious over Underwood et al. (US 3,179,326).

(e) Claims 1-15 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Duckwall et al. (US 6,391,411).

(f) Claims 1-15 are provisionally rejected on the ground of obviousness double patenting over claims 1-16 of copending Application No. 10/879,763.

#### **IV. Response to Rejections**

##### **(a) Response to Anticipation and Obviousness Rejections of Claims 1, 2, 4, 5, 14 and 15 over Bowling et al.**

Applicant respectfully requests that the Examiner withdraw the obviousness rejection of claims 1, 2, 4, 5, 14 and 15 over Bowling et al. because, as the Examiner recognized, Bowling et al. can be considered only under 35 U.S.C. §102(e) and because the claimed invention of this application and Bowling et al. were both owned by Equistar Chemicals, LP when the invention of this application was made. Thus, Bowling et al. is disqualified as prior art for this invention under 35 U.S.C. §103(c). Applicant also requests that the Examiner withdraw the anticipation rejection of claims 1, 2, 4, 5, 14 and 15 over Bowling et al. because claim 1, the independent claim, has incorporated the limitations of claims 3 and 13 which the Examiner has deemed not anticipated by Bowling et al.

##### **(b) Response to Anticipation and Obviousness Rejections of Claims 1-5, 14 and 15 over Underwood et al.**

This rejection no longer applies to claim 3, which has been canceled. Underwood et al. cannot anticipate amended claim 1 because amended claim 1 has incorporated the limitations of claim 13 which the Examiner has deemed not anticipated by Underwood et al. Claims 2, 4, 5, 14 and 15 are not anticipated by Underwood et al. because they depend from claim 1.

Underwood et al. cannot make claim 1 and its dependent claims obvious because the reference neither teaches orienting an HDPE film at a drawdown ratio greater than 10:1 nor teaches how to produce a machine direction oriented film having a 1% secant MD modulus of 1,000,000 psi or greater. While the claimed invention relates to an MD oriented HDPE film, Underwood et al.'s crystalline polyolefin can be "high density polyethylene of 0.94 and above, polypropylene, polybutene, mixtures of polyethylene and polypropylene, and copolymers ethylene, propylene and butene" (col. 5, lines 1-5) and even copolymers of ethylene with vinyl chloride and vinyl acetate (col. 5, lines 5-8). Following Underwood et al.'s teachings, a person of ordinary skill in the art would not have recognized, without hindsight from Applicant's disclosure, a uniaxially oriented HDPE film that would have an MD 1% secant modulus of 1,000,000 psi or greater.

**(c) Response to the Obviousness Rejection of Claims 3 and 6-13 over Bowling et al. (US 6,887,923).**

As discussed in section (a) above, Bowling et al. has been disqualified as a prior art under 35 U.S.C. § 103(c) for this invention.

**(d) Response to the Obviousness Rejection of Claims 6-13 over Underwood et al. (US 3,179,326).**

As discussed in above section (b), Underwood et al. cannot make claim 1 obvious. For the same reason, Underwood et al. cannot make claims 6-13 obvious because these claims depend from claim 1.

**(e) Response to the Obviousness Rejection of Claims 1-15 over Duckwall et al. (US 6,391,411).**

This rejection no longer applies to claims 3 and 10-13 because they have been canceled. As the Examiner recognized, Duckwall et al. neither teaches nor suggests orienting HDPE film uniaxially in the machine direction at a drawdown ratio greater than 10. Neither does it teach nor suggest that orienting HDPE film in the machine direction would produce an MD oriented film having an MD 1% secant modulus of 1,000,000 psi or greater. These are two essential elements of claim 1 and its dependent claims 2, 4-9,

14 and 15. Thus Duckwall et al. cannot make these claims obvious because those claim elements are missing from Duckwall et al.

Applicant has shown ample evidence in the specification that orienting HDPE film at a drawdown ratio 10 or less does not produce an MD oriented film having an MD 1% secant modulus of 1,000,000 psi or greater. See Tables 1-3 of the application. These results defeat any prima facie case of obviousness against claims 1, 2, 4-9, 14 and 15 based on Duckwall et al.


**(f) Response to Obviousness Double Patenting Rejection of Claims 1-15 Over Claims 1-16 of Copending Application No. 10/879,763.**

Applicant has filed a terminal disclaimer which permits any of claims 1-15 of this application to expire at the same time as claims 1-16 of copending Application No. 10/879,763 if it issues as a patent. Thus this obviousness double patenting rejection shall be withdrawn.

**V. Conclusion**

Applicant believes that claims 1, 2, 4-9, 14 and 15 are patentable and asks the Examiner to withdraw the rejections and allow the claims. Applicant respectfully invites the Examiner to phone his attorney, Shao-Hua Guo, at 610 359 2245 if further discussion of this application is deemed helpful by the Examiner.

Respectfully submitted,  
D. Ryan Breese

By:   
Shao-Hua Guo  
Attorney for Applicant  
Reg. No. 44,728  
LyondellBasell Industries  
Phone: (610) 359-2455  
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